

CSC236H1 Y

Introduction to the Theory of Computation

Summer 2026 Syllabus

Course Meetings

CSC236H1 Y

Section	Day & Time	Delivery Mode & Location
LEC5101	Wednesday, 6:00 PM - 8:00 PM	In Person: MP 103

Refer to ACORN for the most up-to-date information about the location of the course meetings.

Lecture: **Wednesdays 6:10–8:00 PM, MP 103**

Lectures, tutorials, and office hours begin ten minutes past the hour unless otherwise announced.

Students should not use Quercus messages and should not email the instructor or TAs directly unless specifically instructed.

For personal questions that apply only to an individual student's situation, students should use the course email:

`csc236-2026-05@cs.toronto.edu`

When emailing, students should use their U of T email address and include their UTORid.

For general questions about course content, readings, practice problems, tutorials, tests, or logistics, students should use Piazza:

<https://piazza.com/utoronto.ca/summer2026/csc236h1y20265lec5101>

Course Contacts

Course Website: <https://q.utoronto.ca/courses/433032>

Instructor: Mr. Amir Reza Peimani

Email: csc236-2026-05@cs.toronto.edu

Office Hours and Location: By appointment only

Course Overview

The application of logic and proof techniques to Computer Science. Mathematical induction; correctness proofs for iterative and recursive algorithms; recurrence equations and their solutions; introduction to automata and formal languages. This course assumes university-level

experience with proof techniques and algorithmic complexity as provided by CSC165H1. Very strong students who already have this experience (e.g. successful completion of MAT157Y1) may consult the undergraduate office about proceeding directly into CSC236H1 or CSC240H1.

Prerequisites: (60% or higher in CSC148H1/ 60% or higher in CSC148H5/ 60% or higher in CSCA48H3; 60% or higher in CSC165H1 /60% or higher in MAT102H5/ 60% or higher in CSCA67H3/ 60% or higher in MATA67H3)/ 60% or higher in CSC111H1

Corequisites: None

Exclusions: CSC240H1, CSC236H5, CSCB36H3

Recommended Preparation: None

Credit Value: 0.5

Course Materials

Textbooks & References

There is **no** required textbook for the course. All required materials will be posted directly in the Overview table of the course page, but you may find some of the following materials helpful.

- *Historical Course Notes by Prof. Vassos Hadzilacos.*
- *Historical Course Notes by Prof. David Liu.*
- (OPTIONAL) Susanna Epp, *Discrete Mathematics with Applications*. Fifth Edition, Cengage Learning, 2020. This book contains many practice problems about induction and recurrences, but only a few about algorithm correctness and complexity, and formal language theory.
 - [U of T Library Holding](#) for the book.
 - [Discrete Mathematics on the U of T Bookstore](#) — there is also an eBook alternative available.
 - [Discrete Mathematics on Cengage.ca](#).
- [CSC110H1 Course Notes](#), for some of the prerequisite material.

Marking Scheme

Assessment	Percent	Details	Due Date
Term Test 1	13.75%	TT1–TT4 are worth 55% total: the two lowest TT marks count for 10% each, the second-highest TT mark counts for 15%, and the highest TT mark counts for 20%.	2026-05-20
Term Test 2	9%	TT1–TT4 are worth 55% total: the two lowest TT marks count for 10% each, the second-highest TT	2026-06-10

		mark counts for 15%, and the highest TT mark counts for 20%.	
Term Test 3	13.75%	TT1–TT4 are worth 55% total: the two lowest TT marks count for 10% each, the second-highest TT mark counts for 15%, and the highest TT mark counts for 20%.	2026-07-15
Term Test 4	13.75%	TT1–TT4 are worth 55% total: the two lowest TT marks count for 10% each, the second-highest TT mark counts for 15%, and the highest TT mark counts for 20%.	2026-08-05
In-Person Final Exam	45%		Final Exam Period

The final exam is worth **45%**. Students must earn at least **25% on the final exam** to pass the course. If a student's final exam mark is below 25%, the final course mark will be reduced, if necessary, to no more than **45**.

Course Schedule

Students should use the week-by-week overview table on the course page as the main starting point for weekly course materials, including readings, exercises, tutorials, homework, and test information. The readings and lecture slides define what students are expected to know each week.

Week	Description
Week 1 May 4–May 10	Introduction to recursive correctness. Review of recursive structure, tracing, and how to reason about recursive algorithms. First lecture: Wed May 6 .
Week 2 May 11–May 17	Recursive correctness continued. Valid recursive structure, non-recursive calls, return values, and proof structure for recursive algorithms.
Week 3 May 18–May 24	Complete induction. Term Test 1: Wed May 20, 8:00–9:00 PM.
Week 4 May 25–May 31	Complete induction continued and introduction to structural induction.
Week 5 Jun 1–Jun 7	Structural induction continued. Well-Ordering Principle.
Week 6 Jun 8–Jun 14	Iterative correctness: loop invariants and proof structure. Term Test 2: Wed Jun 10, 8:00–9:00 PM.
Reading Week Jun	No lectures or tutorials. Office hours, if any, will be announced

Week	Description
15–Jun 21	separately.
Reading Week Jun 22–Jun 28	No lectures or tutorials. Office hours, if any, will be announced separately.
Week 9 Jun 29–Jul 5	No class/tutorial on Wed Jul 1 due to Canada Day. Review and independent practice.
Week 10 Jul 6–Jul 12	Iterative correctness continued. More practice with loop invariants and correctness proofs.
Week 11 Jul 13–Jul 17	Iterative correctness continued and consolidation of proof techniques. Term Test 3: Wed Jul 15, 8:00–9:00 PM.
Week 12 Jul 18–Jul 24	Recursive runtime analysis. Recurrences and runtime reasoning.
Week 13 Jul 25–Aug 2	Recursive runtime continued. Introduction to regular expressions and deterministic finite automata.
Week 14 Aug 3–Aug 9	DFA distinguishability and formal-language reasoning. Term Test 4: Wed Aug 5, 8:00–9:00 PM.
Week 15 Aug 10–Aug 12	NFAs and additional selected practice/review problems. Last day of classes: Wed Aug 12.
Final Exam Period Aug 15–Aug 22	Final exam scheduled by the Faculty of Arts & Science.

Policies & Statements

Use of ChatGPT / Generative AI

tudents may use generative AI tools, such as ChatGPT, Copilot, Gemini, etc., as learning aids and to help with not-for-credit practice problems.

Generative AI is **not permitted** on term tests or the final exam.

Generative AI is not required for this course. Students are responsible for checking any AI-generated content, because these tools may produce incorrect, misleading, or fabricated information. Overreliance on generative AI may give students a false sense of understanding and may hurt their performance on tests, the final exam, later courses, or future work.

Late/Missed Assignments

This item is listed here to remind you to include your late/missed assignment policy; if you have late penalties, you are required to publish them in your syllabus. Please see the [A&S Academic Handbook \(https://www.artsci.utoronto.ca/faculty-staff/teaching/academic-handbook\)](https://www.artsci.utoronto.ca/faculty-staff/teaching/academic-handbook) sections on missed term work (Section 4.7), late term work and extensions (section 4.8), and missed term tests (Section 5.3) for more information.

Late/Missed Assignments

Practice problems are provided for learning and exam preparation. They are **not submitted for marks**, so there is no late penalty for practice problems. Students are still strongly encouraged to attempt them on schedule, because they are the main preparation for tutorials, term tests, and the final exam.

Term tests and the final exam must be written at the scheduled time. There is no ordinary “late submission” option for a term test or exam.

If a student misses a term test because of illness or another unexpected circumstance outside their control, they must submit the **Missed Term Test Request Form** as soon as possible. Students should not wait until they have perfect documentation before contacting the course team or submitting the form.

Special consideration is evaluated case by case and is **not automatic**. Without approved special consideration, a missed term test receives a mark of **0**.

If special consideration is approved for a missed term test, the course team may calculate a mark for the missed test based on the student’s performance on the other term tests and the final exam, while taking class averages into account. Depending on the circumstances, the student may instead be required to write a make-up test or complete another appropriate assessment.

If a student misses multiple term tests, they may be required to meet with the instructor and/or the department’s Learning Strategist before further special consideration is approved. Missing several term tests means the student is also missing important feedback before the final exam, so the course team may require a realistic plan for completing the course successfully.

If a student misses more than two term tests, special consideration becomes more difficult to approve. The student may be required to write a make-up test, complete another appropriate assessment, or meet with the instructor and/or Learning Strategist before any missed-test accommodation is finalized.

Special consideration normally cannot be granted for all term tests. Students must write at least one term test during the term. If circumstances prevent a student from writing every term test, they should contact their College Registrar as soon as possible to discuss their options.

Course instructors cannot grant special consideration for the final exam. If a student is unable to write the final exam, they must contact their **College Registrar immediately**.

Academic Integrity

All suspected cases of academic dishonesty will be investigated following procedures outlined in the [Code of Behaviour on Academic Matters](#) (<https://governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-1-2019>). If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, please reach out to me. Note that you are expected to seek out additional information on academic integrity from me or from other institutional resources. For example, to learn more about how to cite and use source material appropriately and for other writing support, see the U of T writing support website at <http://www.writing.utoronto.ca>. Consult the Code of Behaviour on Academic Matters for a complete outline of the University's policy and expectations. For more information, please see [A&S Student Academic Integrity](https://www.artsci.utoronto.ca/current/academic-advising-and-support/student-academic-integrity) (<https://www.artsci.utoronto.ca/current/academic-advising-and-support/student-academic-integrity>) and the [University of Toronto Website on Academic Integrity](https://www.academicintegrity.utoronto.ca) (<https://www.academicintegrity.utoronto.ca>).

Students with Disabilities or Accommodation Requirements

Students with diverse learning styles and needs are welcome in this course. If you have an acute or ongoing disability issue or accommodation need, you should register with Accessibility Services (AS) at the beginning of the academic year by visiting <https://studentlife.utoronto.ca/department/accessibility-services/>. Without registration, you will not be able to verify your situation with your instructors, and instructors will not be advised about your accommodation needs. AS will assess your situation, develop an accommodation plan with you, and support you in requesting accommodation for your course work. Remember that the process of accommodation is private: AS will not share details of your needs or condition with any instructor, and your instructors will not reveal that you are registered with AS.